

ABSTRACT OF THE DISCLOSURE

A logarithm unit computes an integer part of a logarithm of a floating point operand according to an embodiment of the present invention. The logarithm unit analyzes a format of the floating point operand and generates at least one signal representative of the format. The logarithm unit determines a magnitude of an unbiased exponent of the floating point operand as an intermediate result based on the at least one signal, wherein the unbiased exponent is represented by unbiased exponent bits. Still further, the logarithm unit determines an exponent field and a fraction field high part of the intermediate result. A result is assembled equaling the integer part of the logarithm of the floating point operand based on the at least one signal wherein, if the floating point operand is in at least one of a denormalized format, a normalized non-zero format, and a delimited format, an exponent field of the result equals the exponent field of the intermediate result and a fraction field high part of the result equals the fraction field high part of the intermediate result.